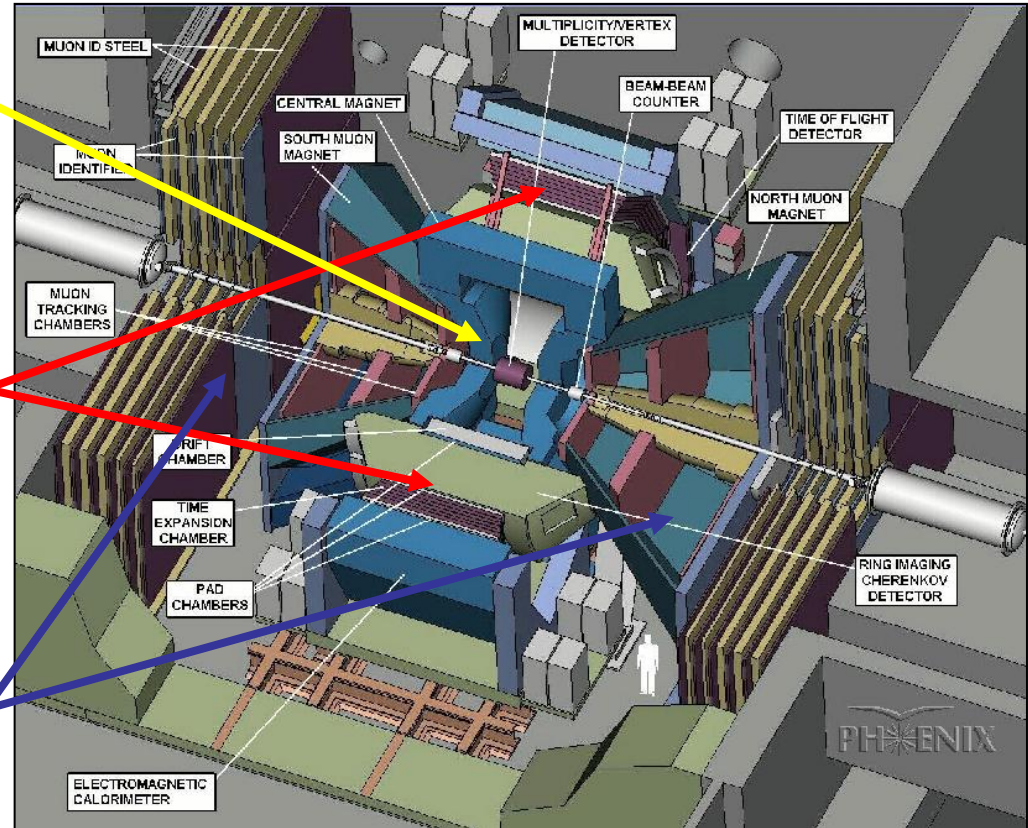


# PHENIX

Event characterization  
detectors in middle

Two central arms for  
measuring hadrons,  
photons and electrons

Two forward arms for  
measuring muons



electrons: central arms

electron measurement in range:

$$|\eta| \leq 0.35$$
$$p \geq 0.2 \text{ GeV}/c$$

muons: forward arms

muon measurement in range:

$$1.2 < |\eta| < 2.4$$
$$p \geq 2 \text{ GeV}/c$$

# RHIC History

Year	Ions	$\sqrt{s_{NN}}$	Luminosity	Detectors	J/ $\Psi$
2000 [Run-1]	Au-Au	130 GeV	$1 \mu\text{b}^{-1}$	Central (electrons)	0
2001	Au-Au	200 GeV	$24 \mu\text{b}^{-1}$	Central	13 + 0 [1]
2002 [Run-2]	p-p	200 GeV	$0.15 \text{pb}^{-1}$	+ 1 muon arm	46 + 66 [2]
2002	d-Au	200 GeV	$2.74 \text{nb}^{-1}$	Central	300+800+600
2003 [Run-3]	p-p	200 GeV	$0.35 \text{pb}^{-1}$	+ 2 muon arms	100+300+120
2004 [Run-4]	Au-Au	200 GeV 62 GeV	$\sim 240 \text{ub}^{-1}$ $\sim 9 \text{ub}^{-1}$	Central + 2 muon arms	? [thousands] ?

[1] [nucl-ex/0305030](https://arxiv.org/abs/nuc-ex/0305030), [Phys. Rev. C 69, 014901 \(2004\)](https://arxiv.org/abs/hep-ex/0307019).

[2] [hep-ex/0307019](https://arxiv.org/abs/hep-ex/0307019), [Phys. Rev. Lett. 92, 051802 \(2004\)](https://arxiv.org/abs/hep-ex/0307019)

$$N_{J/\psi} \approx 10^{\text{Run}}$$